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SECTION 1 REGION INFORMATION

1.1 OVERVIEW

This Tactical Interoperability Communication Plan (TICP) has been created for the Yellowstone County Region. The Yellowstone County Region was established during a kick-off meeting, which was held on February 21, 2006, at the Yellowstone County Court House, 217 North 27th Street, Billings, Montana. Various local officials were in attendance. The Yellowstone County Region was defined to include the City's of Billings, Broadview, and Laurel, within Yellowstone County.

Yellowstone County is located in south central Montana. The Year 2000 Census population was 129,352 citizens and is currently estimated to be 136,970, based on projections from the 2005 Urban Transportation Plan. Billings, the county seat, is the state's largest city comprising of over 100,000 citizens. The county is 2,646 square miles in total area including 31 miles of inland water with 24 public and privately-owned dams within the county boundaries. The communities, towns, and cities within Yellowstone County are: Acton, Ballantine, Billings, Broadview, Custer, Huntley, Laurel, Pompeys Pillar, Shepherd and Worden, including Lockwood (unincorporated.) Additionally, a portion of the Crow Indian Reservation lies within Yellowstone County boundaries.

The reporting jurisdictions in the Yellowstone County Region are as follows:

- City of Billings Police Department
- City of Laurel Police Department
- Montana Highway Patrol
- Yellowstone County Sheriff's Office
- Billings Fire Department
- Emergency Medical Services
- Yellowstone City/County Health Department
- Deaconess Hospital (now Billings Clinic)
- St Vincent's Hospital

The TICP participants appointed Mr. James L. Kraft, Director, Yellowstone County Disaster and Emergency Services, as the Yellowstone County POC as the Region Administrator.

This TIC Plan is intended to apply to the jurisdictions, as defined above. Specifically, the plan is intended to be used by the first responder disciplines that would respond to the scene of an emergency, as well as other disciplines that would need to be coordinated with during the response. Thus, the agencies involved might be one or more of the following with jurisdictions within the borders of Yellowstone County:

Local Agencies
Yellowstone County Disaster Emergency and Services (DES)
Yellowstone County/City Health Department

Yellowstone County Public Works
Yellowstone County Rural Fire Departments
Lockwood Fire Department
City of Billings Fire Department
City of Billings Communication Center
City of Billings Public Works Department
American Medical Response (private)
City of Laurel Fire Department
City of Laurel Dispatch Center
City of Laurel Ambulance
City of Laurel Public Works

State of Montana Agencies
Montana Highway Patrol
Montana National Guard
Department of Natural Resources and Conservation
Montana DES

Federal Agencies
Bureau of Indian Affairs
Bureau of Land Management
Federal Bureau of Investigations
US Marshals Service
Bureau of Alcohol, Tobacco, and Firearms

Indian Nations
Crow Nation

1.2 INCLUDED AGENCIES

The agencies represented in the TIC Plan are included in Table 1.2.1 below.

Agency	Contact	Email	Phone
County Sheriff Office	Chuck Maxwell	cmaxwell@co.yellowstone.mt.us	(406) 256-2929
Billings Police Dept	Rich St. John	stjohnr@ci.billings.mt.us	(406) 657-8472
Laurel Police Dept	Rick Musson	rmusson@ci.laurel.mt.us	(406) 628-8737
Montana Highway Patrol	Keith Edgell	kedgell@mt.gov	(406) 896-4351
Billings Fire Dept	Marv Jochems	jochemsm@ci.billings.mt.us	(406) 657-8423
EMS (Amer Med Resp)	Jim Webber	jwebber@amr-ems.com	(406) 259-9601
Yellowstone City/ County Health Dept	John Puckett	johnp@ycchd.org	(406) 651-6443
Deaconess Hospital	Joe Marcotte	jmarcotte@billingsclinic.org	(406) 657-4824
St Vincent's Hospital	Steve Shandera	Stephen.shandera@svh-mt.org	(406) 237-3095

Table 1.2.1: Agencies Represented by the TIC Plan.

1.3 TIC PLAN POINT OF CONTACT

The primary point of contact (POC) that can be reached for questions regarding the Plan:

Name: James L. Kraft
Title: Director, Yellowstone County Disaster and Emergency Services
Address: P.O. Box 35004, Billings, MT 59107
Phone: (O) 406-256-2775, © 406-256-6947
E-Mail: jkraft@co.yellowstone.mt.us

SECTION 2 GOVERNANCE

2.1 OVERVIEW

This TIC Plan has been developed under the authority of the Montana Disaster and Emergency Services (MDES).

There are 5 Montana DES Sections:

- Administrative (Finance & Logistics) Section
- Planning Section
- Operations Section
- Logistics Section
- Homeland Security
- Six District Representatives (District 5 includes Yellowstone County)

The Yellowstone County DES shall provide coordination for the development and implementation of this TIC Plan.

The Billings and Laurel Police Departments and the Yellowstone County Sheriff's Office provide law enforcement activities within their perspective cities and throughout the county. The Highway Patrol provides traffic safety law enforcement activities throughout the county. All of the law enforcement agencies participate in mutual aid, train and exercise together.

The Billings, Laurel, and Lockwood Fire Departments and the County Rural Fire Departments provide fire service activities within their perspective cities and throughout the county. The fire departments participate in mutual aid, train and exercise together.

Emergency Medical Services (EMS) is provided by several of the rural fire departments and also by the City of Laurel and the private ambulance service of American Medical Response..

Yellowstone City/County Public Health and the two health care/hospitals facilities work together to provide prevention, detection, and response to health care incidents. The three Public Works Departments in the City/County frequently coordinate with public health and law enforcement to ensure site security and health standards.

State and Federal Agencies support the local response entities with their planning, preparedness, mitigation, and response to emergencies or disasters.

The working group responsible for identifying, developing, and overseeing technical solutions is the established Interoperability Montana Technical Committee (IMTC). The IMTC membership consists of local, state and federal communications expertise throughout the State of Montana.

2.2 MEMBERSHIP

Appendix A provides POC information on members of the governing agencies listed in Section 1.2. This group also represents the Yellowstone County Region Communications Committee responsible for determining operational requirements, developing Standard Operational Procedures, and coordinating training.

2.3 RESPONSIBILITIES OF GOVERNING AGENCIES

The governing agencies will hold the following responsibilities:

- Maintaining and updating this TIC Plan
- Adopting final solutions and direct implementation of this TIC Plan
- Establishing training requirements in support of this TIC Plan
- Maintaining Letters of Authorization for interoperable communications

2.4 MEETING SCHEDULE

The governing agencies have regular meetings with the Local Emergency Planning Committee (LEPC) on the second Thursday of each month. Meetings take place at the Emergency Operations Center located at Fire Station #1, 2305 8th Avenue North, Billings, Montana.

2.5 AGENCY RESPONSIBILITIES AND RIGHTS

Agencies will retain the following rights and responsibilities:

- Agencies are responsible for agreeing to and complying with Letters of Authorization developed by the Governing Agencies.
- Agencies agreeing to this plan have the use of systems in accordance with Standard Operating Procedures (SOPs). Dispatch agencies and emergency communications centers of participating agencies have the authorization to request use of the systems.
- Where applicable, agencies will be responsible for maintaining, testing and exercising connectivity to interoperable communications systems.
- Agencies retain the right to decide when and where to participate in interoperable communications. For example, agencies will retain the right to accept or decline a patch to a gateway system to provide interoperable communications during an incident.

2.6 AUTHORITY FOR COORDINATION AND ASSIGNMENT OF INTEROPERABILITY ASSETS

A central authority to prioritize and coordinate resources when large-scale or multiple emergencies occur ensures the most appropriate resources can be assigned to a particular incident When the same resources are requested for two or more incidents, the Emergency Operations Center will prioritize resource assignment based on the priority levels below:

1. Disaster, large scale incident or extreme emergency requiring mutual aid or interagency communications;
2. Incidents where imminent danger exists to life or property;
3. Pre-planned events requiring mutual aid or interagency communications;
4. Incidents requiring the response of multiple agencies;
5. Incidents involving a single agency where supplemental communications are needed for agency use;
6. Drills, tests and exercises.

If there are multiple incidents to resolve contention within the same priority, the channel should go to the organization with the wider span of control/authority. This shall be determined by the Emergency Operations Center or by the levels of authority/government identified in the contention.

SECTION 3 INTEROPERABILITY EQUIPMENT

This section describes all interoperable equipment available in the Yellowstone County Region.

3.1 SWAP RADIO

"Swapping radios" refers to maintaining a cache of standby radios that can be deployed to support regional incidents. These radios may be from a regional cache, or from a participating agency. This allows all responders to use a common, compatible set of radios during an incident. Specific caches within the region are listed in the table below.

County	Agency	Quantity	Type
Yellowstone	Billings PD	11	MT1000

Table 3.1.1 Radio Cache in the Region

The Billings Police Department maintains a cache of 11 VHF radios for use in interoperable communications scenarios when 800 MHz-VHF patching or NIF gateway use is impractical. More detailed information on the radio cache is documented in Appendix C.

3.2 SHARED CHANNEL

"Shared channels" refer to common frequencies or channels (such as those of a participating agency) that have been established and are programmed into radios or available via gateway to provide interoperable communications among agencies. The Montana Department of Administration, Public Safety Radio Communication Program, the governing body for State-wide radio interoperability has assigned Mutual Aid and Common Frequencies throughout the State of Montana. The list of interoperable Mutual Aid communications channels are listed in Appendix C.

The VHF Mutual Aid frequencies are available as interoperability channels throughout the Yellowstone County Region. Yellowstone County Sheriff's Office, City of Laurel PD, and Montana Highway Patrol utilize these channels for intra- and interoperable operations.

The City of Billings, via the NIF Crossband gateway detailed in Section 3.3 and through direct patching, has the ability to utilize Mutual Aid frequencies in situations requiring interoperable operations.

3.3 GATEWAYS

By definition, "Gateway" systems interconnect channels of different systems (whether on different bands or modes), allowing first responders to use their existing radios and channels to be

interconnected with the channels of other users outside of their agency. Two specific gateways are available for use within the Yellowstone County Region, the Cross Banded NIF and through 800 MHz-to-VHF patching. The gateways are listed in Table 3.1.3. Detailed information on each gateway is provided in Appendix D.

Gateway Type	Use	Fixed/Mobile
NIF Crossband	Permanent	Fixed
Patch: 800 MHz - VHF	Temporary	Fixed

Table 3.1.3 Available Gateway Systems in the Region by Agency

NIF CROSS BAND

Yellowstone County and the City of Billings established a permanent cross banded 800 MHz to VHF gateway channel utilizing National Interoperability Frequencies (NIF). This channel, referred to as the "NIF Crossband", is maintained and operated by the City of Billings Communication Center and serves as continuously-running interoperable communication link between the Law Enforcement Agencies in the Yellowstone County Region: City of Billings Police Departments, City of Laurel Police Department, Yellowstone County Sheriff, and Montana Highway Patrol.

PATCH 800 MHZ TO VHF

In the event a direct communication link between a 800 MHz system talkgroup and VHF frequency is necessary, the City of Billings Communication Center can patch one or more trunked 800 MHz channels to a specific VHF channel on a temporary basis. The use of this patching gateway will reduce the number of 800 MHz channels available for the trunked radio shared system and is considered only for NIF Crossband redundancy purposes. The Communication Center has established guidelines for use and pre-programmed activation procedures, but can also create patches on an ad hoc basis.

3.4 SHARED SYSTEM

"Shared systems" refers to the use of a single radio system infrastructure to provide service to most Public Safety agencies within a region.

Name	Service Area	Radio System	Public Safety Agencies Supported
City of Billings 800 MHz	City of Billings metropolitan area	800 MHz Trunked, 5-Channel Conventional	All City of Billings Public Safety and Services Departments, except Street

			Department

Table 3.1.4 Shared Systems in the Region

The City of Billings operates the only independent Shared System within the Yellowstone County Region through an 800 MHz, 5-channel trunked communication system. The trunked system is utilized by all City of Billings Public Safety Departments and most Public Services, especially the Police Department, Fire Department, and Medical Group. The coverage area of this system includes the City of Billings geographical boundaries and extends several miles beyond city limits, depending on topography. The Talkgroup Plans are detailed in Appendix E.

SECTION 4 POLICIES & PROCEDURES FOR INTEROPERABLE EQUIPMENT

4.1 SWAP RADIO CACHE

CACHE PROVIDER RESPONSIBILITIES

The cache radios have the following characteristics:

- Charged and maintained, ready for deployment at all times
- Include extra charged batteries for extended deployments
- Available personnel to transport the radios to the incident scene
- Available technicians for support during the deployment
- Check-out and tracking procedures are used during the incident to ensure the radios are properly returned to the cache following the incident.

Swap radio cache programming is listed in Appendix B, Table B.1.

RADIO CACHE RULES OF USE

- National Incident Management System- Use of an Incident Command System compliant with the National Incident Management System is required for use of any regional interoperability resource.
- Plain language - All Communications shall be in plain language. Radio codes, acronyms and abbreviations are to be avoided as they may cause confusion between agencies. Additionally, it should be understood that plain words such as “help”, “assistance”, “repeat” and “back-up” may have different operational meanings to different agencies. The word “Help” should not be used alone unless in the context of a life-threatening situation. Requests for assistance or backup should clarify the reason for the request.
- Unit Identification - Agency name or identifier shall precede unit identifier.

INTEROPERABLE COMMUNICATIONS REQUEST

A. The Incident Commander will determine when a situation exists that requires use of a interoperability resource and will notify the Dispatch / Emergency Operations Center that the VHF Radio Cache is needed to support interoperability operations.

B. The Dispatch Center having jurisdiction over the location of the incident follows internal agency procedures to contact the Command Center / Emergency Operations Center and relays pertinent information regarding the event.

C. The following information is provided by the requesting agency at the time of an activation request:

- User's agency
- On-scene agencies requiring interoperability
- Reason for request / type of event
- Expected duration of event

D. In the event that the Billings PD activates its radio cache prior to Incident Commander or Emergency Operations Center request, Billings PD notifies the Dispatch Center / Emergency Operations Center and provides the information in Section C, above.

E. The Emergency Operations Center / Communications Unit Leader will determine which interoperability resources are available for use and identify the most effective resource for the situation. The Emergency Operations Center activates the Radio Cache by requesting the Operations Center authorize deployment of the radio cache. The Operations Section Leader directs the Radio Cache Manager to deploy the radio cache.

F. The Operations Center coordinates the deployment by providing the contact information for the radio cache to the Incident Commander or their designee.

RADIO CACHE ACTIVATION

A. The Radio Cache Manager will provide an estimated response or activation time, which will be relayed to the Operations Center of the agency having jurisdiction over the event and the Incident Commander.

B. The Radio Cache will be delivered to the incident scene or predetermined location as determined by the Incident Commander, including fully charged spare batteries.

C. Each radio in the radio cache will have a unique identification number for inventory tracking.

D. The Radio Cache Manager will be responsible for keeping a list of each user to whom a radio has been distributed, the agency of the user and the identification number of the radio(s) provided to that individual.

E. Each user and/or agency that has received a radio from the radio cache will be responsible for the return of that radio to the cache at the end of the incident.

RADIO CACHE DEACTIVATION

A. The Incident Commander will determine when the radio cache is no longer required.

B. The Incident Commander will be responsible for coordinating the return of cache radios.

C. The Radio Cache Manager will be responsible for inventorying all radios returned to the cache. Before leaving the incident scene, it will be determined if any radios have not been returned to the radio cache and note the user and/or agency to which the radio was distributed. This information will be provided to the Incident Commander. If the missing radios cannot be recovered at the incident scene, the Radio Cache Manager will provide this information to the Incident Commander for resolution.

D. The Radio Cache Manager will ensure the radio cache is returned to the cache storage location. All radios will be inspected for physical damage and operational service. All batteries and accessories will be inspected and recharged, as needed.

4.2 SHARED CHANNELS: MUTUAL AID CHANNELS

The procedures in Section 4.2 apply to the Mutual Aid channels as shown in Appendix C, Table C.1.

DEFINITIONS

- **Local Network Control Center** – The local Network Control Center normally includes the City / County Communication Center dispatch that would have operational control of local mutual aid channels (i.e., GOLD, SILVER, etc).
- **Color Names –** The State of Montana has directed the use of "colored names" in identifying Mutual Aid frequencies. The color names are short, commonly recognized, and generally associated with their function. For example, the "RED" channel is used for "State Fire Mutual Aid."

OVERVIEW OF SHARED MUTUAL AID CHANNEL USE

- **Law Enforcement**. The State of Montana provides Gold, Silver, Black and Blue Mutual Aid channels across the state to all eligible Law Enforcement agencies that own and operate VHF radio equipment. These channels are used for mutual aid operations in local jurisdictional operations, large-scale incidents or when an incident is moving across county/city jurisdictions.
- **Fire.** The State of Montana provides Red, Maroon, Coral, Scarlet, Ruby and Garnet Mutual Aid channels across the State to all eligible Fire Service users that own and operate VHF radio equipment. These channels are used for mutual aid operations in local jurisdictional operations, large-scale incidents or when an incident is moving across county/city jurisdictions.
- **Hospital and EMS**. The State of Montana provides White, Tan, Gray and Pink Mutual Aid channels across the State to all eligible Hospital and EMS users that own and operate VHF radio equipment. These channels are used for mutual aid operations in local jurisdictional operations, large-scale incidents or when an incident is moving across county/city jurisdictions.

MUTUAL AID CHANNELS RULES OF USE

- Examples of Proper Use of the Mutual Aid Channels:
  - As working channels for multiple fire departments fighting a fire together.
  - Linking incompatible radio systems by use of a gateway patch.
  - For coordination during a police chase through multiple jurisdictions where the agencies have no other communications link with each other.
  - For communications during extended joint operations between multiple police agencies such as drug operations, riots, etc.
  - For coordination during recovery operations after a disaster such as a brush fire when local, state, and federal officials require a common communications link.

- Examples of Improper Use of the Mutual Aid Channels:
  - To support the administrative functions of a fire department which has a mutual aid agreement with an adjacent fire department to provide "move up" capability when a fire unit leaves its own coverage area.
  - To provide an extra working channel for a public safety agency supporting a special event.
  - To provide a surveillance channel for use between members of the same public safety agency.

Other rules of use:

- National Incident Management System- Use of an Incident Command System compliant with the National Incident Management System is required for use of any regional interoperability resource.
- Plain language - All Communications shall be in plain language. Radio codes, acronyms and abbreviations are to be avoided as they may cause confusion between agencies. Additionally, it should be understood that plain words such as "help", "assistance", "repeat" and "back-up" may have different operational meanings to different agencies. The word "Help" should not be used alone unless in the context of a life-threatening situation. Requests for assistance or backup should clarify the reason for the request.
- Unit Identification - Agency name or identifier shall precede unit identifier.

PROBLEM ID AND RESOLUTION

A. The dispatch center having jurisdiction over the location of the incident reports any problems experienced to the offending agency contact. See Appendix A for Point of Contact information for the affected Agency.

B. The governing agencies will be responsible for ensuring effective resolution to problems that exist with interoperability resources.

4.3 SHARED CHANNELS: COMMON FREQUENCIES

The procedures in this section apply to all other shared channels not addressed in section 4.2. These include the channels in the table below. Common frequencies are distinguished from mutual aid in that they are not licensed statewide for communications between non-licensed users. Appendix C has more information on these common frequency channels.

Primary Use	Name	Description	Frequency
State DES Direction and Control	Brown	Statewide Emergency Management	155.820 MHz
Search and Rescue	Violet Purple	National Search and Rescue State Search and Rescue	155.160 155.220
Department of State Lands	Yellow	State Forestry	151.220

Table 4.3.1 – Other Emergency and Mutual-Aid Frequencies

COMMON FREQUENCY CHANNELS RULES OF USE

The Common Frequencies in the region will be reserved for inter-communication in situations requiring the coordination of multiple public safety entities or between public safety entities with incompatible radio systems. They shall not be used for administrative or intra-agency communications unless so directed during a major emergency disaster situation.

- Examples of Proper Use of the Common Frequency Channels:
  - As working channels for multiple fire departments fighting a fire together.
  - Linking incompatible radio systems by use of a gateway patch.
  - For coordination during a police chase through multiple jurisdictions where the agencies have no other communications link with each other.
  - For Communications during extended joint operations between multiple police agencies such as drug operations, riots, etc.
  - For coordination during recovery operations after a disaster such as a brush fire when local, state, and federal officials require a common communications link.
- Examples of Improper Use of the Common Frequency Channels:
  - To support the administrative functions of a fire department which has a mutual aid agreement with an adjacent fire department to provide "move up" capability when a fire unit leaves its own coverage area.
  - To provide an extra working channel for a public safety agency supporting a special event.
  - To provide a surveillance channel for use between members of the same public safety agency

Other rules of use:

- National Incident Management System- Use of an Incident Command System compliant with the National Incident Management System is required for use of any regional interoperability resource.
- Plain language - All Communications shall be in plain language. Radio codes, acronyms and abbreviations are to be avoided as they may cause confusion between agencies. Additionally, it should be understood that plain words such as "help", "assistance", "repeat" and "back-up" may have different operational meanings to different agencies. The word "Help" should not be used alone unless in the context of a life-threatening situation. Requests for assistance or backup should clarify the reason for the request.
- Unit Identification - Agency name or identifier shall precede unit identifier.

SHARED CHANNEL PROCEDURES

A. If an individual responder needs to talk to an agency with which they do not otherwise have communications or have incompatible radio systems, the responder notifies dispatch that they need to operate on one of the gateway channels. Dispatch or the responder can determine the appropriate channel. See section 4.4 for gateway procedures.

B. For an extended incident, the dispatcher is responsible for notifying the Command Center that an interoperability gateway channel is in use.

C. When a responder is dispatched to an incident, each agency dispatcher is responsible for notifying responders what interoperability gateway channels are being used for the incident.

D. The Incident Commander determines when the interoperability channel no longer required and notifies his/her dispatch center.

E. The dispatch center having jurisdiction over the location of the incident notifies each responding agency that operations on the interoperational channel are ending.

PROBLEM IDENTIFICATION RESOLUTION

A. The dispatch center having jurisdiction over the location of the incident reports any problems experienced to the governing agencies. See Appendix A for Point of Contact information for the governing agencies.

B. The governing agencies will be responsible for ensuring effective resolution to problems that exist with interoperability resources.

4.4 FIXED SITE GATEWAYS

This document provides guidance on use of the radio communication gateways for the Yellowstone County Region to request interoperable communications between local, state, and federal agencies during emergency incidents. This standard operating procedure specifically

addresses the interoperability of the National Interoperability Frequency (NIF) Crosspatch Gateway and Patch Gateway.
The Communication Center serves as control points for establishing interoperable communications between the City of Billings 800 MHz Trunked Radio System and all other VHF Users in the Region.

PARTICIPATING AGENCIES

Appendix D.1 lists the agencies supported by each gateway method.

FIXED SITE GATEWAY COMMUNICATIONS REQUEST

A radio user requiring direct communications with a user from an incompatible radio system shall follow their own agency's procedures for requesting connectivity. Typically, a user should request a patch by contacting their agency's dispatcher.

The dispatch center having jurisdiction over the location of the incident follows internal agency procedures to establish interconnectivity between incompatible radio systems by directing the users to the NIF channel for VHS users or to the PATCH talkgroup for 800 MHz users.

NIF CROSSBAND GATEWAY ACTIVATION

The NIF Crossband Gateway is a permanent gateway and serves as a constant interoperability link between VHF user in the Region and the City of Billings 800 MHz Trunked system. See Appendix D.1 for additional detail and use of this gateway.

NIF CROSSBAND GATEWAY RULES OF USE

The following rules of use shall govern interoperable communications between incompatible radio systems:

- Connectivity between agencies shall only be requested for working emergency events as defined by local operating procedures
- Agencies will identify themselves by agency name and designated call sign/radio designator. For example, if the Montana Highway Patrol requires has communications with the Billings Police Department then MHP will call BPD on the NIF Crossband gateway.
- All radio traffic should be in plain language. The use of 10-Codes and specific agency acronyms is discouraged
- During emergency events with multiple agencies, the designated incident commander, may limit the interoperable channel/talkgroup to command level staff

The requesting agency's dispatcher should monitor the radio traffic between units.

PROBLEM ID AND RESOLUTION

A. The dispatch center having jurisdiction over the location of the incident reports any problems experienced to the governing agencies. See Appendix A for Point of Contact information for the governing agencies.

B. The governing agencies will be responsible for ensuring effective resolution to problems that exist with interoperability resources.

NIF CROSSBAND GATEWAY LIMITATIONS

The interoperability provided through the NIF Crossband Gateway has the ability to link incompatible radio systems but has the following limitations:

- **Single channel operation**: This is only a single channel connecting a VHF repeater to another 800 MHz repeater. As a result, a limited number of users can be supported simultaneously before traffic congestion takes place.
- **Home system coverage may limit communications:** When agencies gain connectivity through gateway, agencies will only maintain interoperable communications when in their home system coverage area. For example, if a 800 MHz user is out of range from the shared system the link can be lost.
- **Multiple disciplines requiring interoperability will require additional resources to establish interoperable communications:** Agencies not programmed with the NIF Crossband VHF frequency or NIF 800 MHz Talkgroup cannot establish direct interoperable communications via the Gateway.

NIF CROSSBAND GATEWAY PROCEDURES

To ensure that equipment components of the interoperability solution are operating properly, the Billings Police Department Dispatch Center and County Sheriff Dispatch Center will participate in the following testing procedure:

A. As a fixed gateway, the NIF Crossband is used regularly in Law Enforcement activities. As such, it's use constitutes a operational test between VHF users and Billings Police Department.

B. The VHF or 800 MHz user (requestor) contacts their specific Dispatch Center requesting interoperability between two specific units.

C. The Dispatcher calls the requested unit to meet the requestor on the NIF Channel.

D. The requested unit changes channels on their subscriber unit and commences communication with the requestor on the NIF Crossband Gateway.

E. If the issue or problem occurs, the County Dispatch Center shall contact the appropriate technical personnel to address the issue or problem.

4.5 PATCH GATEWAY

PATCH GATEWAY COMMUNICATIONS REQUEST

A radio user requiring direct communications with a user from an incompatible radio system shall follow their own departments or agencies procedures for requesting connectivity. Typically, a user should request a patch by contacting their field unit commander or incident commander.

The Communications Center serves as the control points for establishing interoperable patch gateways between the City of Billings 800 MHz Trunked Radio System and all other VHF Users in the Region.

The following information is provided by the requesting agency at the time of an activation request:

a. User's agency
b. Agencies or frequencies/talk groups to connect
c. Reason for request / type of event
e. Expected duration of event
f. User/requestor contact phone number

The Communication Center dispatcher determines what resources are available for use and identifies and activates a specific resource per procedure. For example, if a patch gateway is activated, the Incident Commander contacts the Communication Center to activate the patch.

PATCH GATEWAY ACTIVATION

Once authorization has been granted from the Communication Center, each agency should follow their internal procedures for activating the connectivity.

Procedures for establishing communications connectivity include:

A. Requestor should provide the intended channel by Mutual Aid Color or by Talkgroup Designator. For example, the Incident Commander may request patching the Mutual Aid RED and Talkgroup RED.
B. Dispatcher determines whether the request if for a pre-programmed patch or an ad hoc patch. RED, GOLD, and SILVER patches are pre-programmed. All others are ad hoc and require additional coordination.
C. Provide radio call sign/designator information to connected agencies as needed.
D. Assign the requested unit/agency to that channel or talkgroup patch.
E. Utilize your agency's internal procedures for establishing a patch between the agencies, whether pre-programmed or ad hoc patch gateway.
F. The dispatcher will connect the agency to the appropriate talkgroup.
G. Announce to users that the interoperability patch is activated.
H. Users should mark up on the interoperability patch using their agency name and unit identifier.
I. The dispatcher for the jurisdiction where the event is being worked shall monitor the interoperability patch to address requests.

PATCH GATEWAY DEACTIVATION

When the interoperable communications patch is no longer required, agencies should follow these deactivation procedures

A. The requesting agency/user or incident commander where the emergency event occurred shall contact their dispatcher so that the patch can be deactivated.
B. The control point dispatcher shall make an announcement on the interoperable channel/talkgroup indicating that the connection will be deactivated prior to the connection being disabled.
C. The patch must be deactivated at the console at which it was activated.
D. All personnel shall return to their appropriate home system channel assignments.

PATCH GATEWAY RULES OF USE

The following rules of use shall govern interoperable communications between agencies:

- Connectivity between agencies shall only be requested for working emergency events
- Agencies will identify themselves by agency name and designated call sign/radio designator. For example, if the Montana Highway Patrol requires has communications with the Billings Police Department then MHP will call BPD on the NIF Crossband gateway.
- All radio traffic should be in plain language. The use of 10-Codes and specific agency acronyms is discouraged.
- During emergency events with multiple agencies, the designated incident commander, may limit the interoperable channel/talkgroup to command level staff.
- The requesting agency's dispatcher should monitor the radio traffic between units and then advise the Incident Commander when the patch can be deactivated.

PROBLEM ID AND RESOLUTION

A. The dispatch center having jurisdiction over the location of the incident reports any problems experienced to the governing agencies. See Appendix A for Point of Contact information for the governing agencies.
B. The governing agencies will be responsible for ensuring effective resolution to problems that exist with interoperability resources.

PATCH GATEWAY LIMITATIONS

The interoperability provided through the Patch Gateway has the ability to link participating agencies but has the following limitations:

- **The number of simultaneous patches that can be supported by the 800 MHz Trunked System is limited by channel resources:** There are a maximum of five channels in the City of Billings 800 MHz System. Activation of any patch reduces the available channels in the System by the number of patches established. As a result, a

limited number of patches involving resources can be supported simultaneously. It is recommended that only one patch be established at any time.

- **Home system coverage may limit communications:** If agencies gain connectivity through a patch gateway, agencies will only maintain interoperable communications when in their home system coverage area.

PATCH GATEWAY TEST PROCEDURES

To ensure that equipment components of the interoperability solution are operating properly, Communication Center will participate in the following testing procedure:

A. Establish a patch between a VHF frequency and 800 talkgroup on a monthly basis. Accomplish a radio test.
B. The dispatcher will make an official announcement, via radio, that the test is complete
C. If the patch does not operate, the dispatcher will to attempt to identify any issues or problems that precluded their participation in the patch
D. If the issue or problem can be identified, dispatch personnel will take corrective action. If the issue or problem cannot be identified, the control point dispatcher shall contact the Communication Center Manager to address the issue or problem.

4.6 SHARED SYSTEM

The City of Billings operates a five-channel, simulcast 800 MHz Trunked System located on three radio towers. The central hub of the simulcast system is located at the City / County Communications Center. This system is shared by all City of Billings Public Safety and Services Departments, except the Street Department. Access to the shared system by VHF users is through the Gateways as described in Section 4.3 and 4.4. Additional information regarding this shared system is detailed in Appendix E.

SHARED SYSTEM RULES OF USE

- National Incident Management System- Use of an Incident Command System compliant with the National Incident Management System is required for use of any departmental interoperability situation.
- Plain language - All Communications shall be in plain language. Radio codes, acronyms and abbreviations are to be avoided as they may cause confusion between agencies. Additionally, it should be understood that plain words such as “help”, “assistance”, “repeat” and “back-up” may have different operational meanings to different agencies. The word “Help” should not be used alone unless in the context of a life-threatening situation. Requests for assistance or backup should clarify the reason for the request.
- Unit Identification - Agency name or identifier shall precede unit identifier.

SHARED SYSTEM PROCEDURES

A. Users with shared talkgroups

A shared talkgroup is a talkgroup assigned to one department that is programmed into another department's subscriber. Example: The Police Department's "PD1" talkgroup is programmed into both the BPD Chief Talkgroup template and the Fire Department's Administration talkgroup template. PD1 can also be referred to as an "shared talkgroup" as two or more City of Billings Departments are able to communicate on the same talkgroup. In this case, the Police and Fire Departments can communicate interdepartmentally by hailing each other on this talkgroup without Dispatcher or Communication Center intervention.

B. Users without shared talkgroups

In most cases departments do not share talkgroups. In the case where one subscriber cannot directly hail another subscriber through a shared talkgroup, the following procedure is in place.

1. The requestor notifies dispatch that communication with another 800 MHz unit is needed. Either the Dispatcher will determine the appropriate talkgroup to share or the requestor may request a specific talkgroup to share. In either case, the Dispatcher will direct each party to the selected shared talkgroup. For example, a BFD "Basic" user may need to communicate with BPD. In this case, the dispatcher may direct each party to the "CTYCM" talkgroup or other common talkgroup programmed into both user's radios.
2. For an extended incident, the dispatcher is responsible for notifying the Incident Commander which talkgroup is in use for interdepartmental communications.
3. When a responder is dispatched to an incident, each agency's dispatcher is responsible for notifying responders which talkgroup(s) is (are) being used for the interdepartmental use.
4. The Incident Commander determines when the interdepartmental talkgroups is (are) no longer required and notifies the affected agency's dispatch center.

4.7 PROBLEM IDENTIFICATION AND RESOLUTION

The Incident Commander with authority at the location of the incident reports any problems experienced to the Communications Center Manager. The Communication Center Manager will be responsible for ensuring effective resolution to problems that exist with interoperability resources.

SECTION 5 PLANS FOR TACTICAL COMMUNICATIONS DURING CATASTROPHIC INDUSTRIAL EVENT

5.1 INDUSTRIAL EVENT

This plan assumes a catastrophic public health safety hazard caused by an industrial accident of a magnitude that could include up to 100 hospitalizations. The plan that has been laid out in this section addresses the need for interoperable communications on-scene in the first 4 hours of the incident response. The ConocoPhillips portion of the simulation is intended to last 48 hours to test internal incident mitigation.

Simulated Catastrophic Industrial Event

Details of Event: On September 13, 2006, the ConocoPhillips Petroleum Refinery, located in Billings, Yellowstone County, Montana will simulate the catastrophic failure of a Hydrofluoric (HF) Alkalization Unit resulting in an on-site explosion and fire that consumes all the released hydrocarbon from the refinery. The HF Acid Drum associated with the refinery will be considered severely damaged, releasing 130,000 pounds of acid to the atmosphere. Wind from the South Southeast will spread the HF Acid plume North Northwest of the refinery into the adjoining community.

Event Objectives for the TICP: The ConocoPhillips Fire Brigade and City of Billings Fire Department are expected to operate as Unified Incident Command for their respective Areas of Responsibility. TICP objectives to this event include:

- Conduct interoperability communication between City of Billings Public Safety Departments
- Conduct interoperability communication between the governing agencies listed in Section 1.2 and Appendix A.

Although no amount of planning can address every possible outcome during an event, a plan for interoperable communications is expected to have the following benefits:

- The development of a plan builds an understanding of what resources could be applied to a general type of incident and what limitations exist. This knowledge can be applied during events as well as in the development of requirements for future interoperability systems that may be implemented by the region.
- By establishing the planned use for interoperable communication resources, agencies can train, equip or take other measures to ensure personnel have access to the communication resources needed by their discipline.

5.2 PARTICIPATING FUNCTIONAL DISCIPLINES

In response to the industrial event, the local and regional functional disciplines, public and private, involved in the initial incident-scene response are expected to include:

- Emergency Operations Center
  - City of Billings Police Dispatch
  - City of Billings Fire Dispatch
  - County Dispatch
- Public Safety Fire Department
  - City of Billings FD
  - City of Lockwood FD
- Private Fire Department
  - ConocoPhillips Fire Brigade
- Law Enforcement
  - City of Billings Police Department
  - Yellowstone County Sheriff's Office
  - City of Laurel Police Department
  - Montana Highway Patrol
- Emergency Medical Services
  - Billings Clinic Hospital (formerly Deaconess Hospital)
  - St. Vincent Hospital
  - American Medical Response (private ambulance provider)
- Public Services
  - American Red Cross
  - United Way Volunteer Center
- Yellowstone County DES
- HazMat – City of Billings
- Billings Airport Rescue and Firefighting
- ConocoPhillips Exercise Participants
  - IMAT – Americas Incident Management Action Team
  - Crisis Management and Emergency Response Hotline
  - Billings Refinery Incident Management Team

In addition to the local agencies above, State and Federal agencies may also be involved in the initial incident-scene response. The State and Federal agencies listed below have been provided copies of this plan and will be invited to participate in the training and exercise activities related to this plan.

- Environmental Protection Agency
- Federal Emergency Management Agency (FEMA)
- Montana National Guard
- Montana Public Health
- Montana Highway Patrol
- Montana Disaster and Emergency Services
- Montana Department of Environmental Quality

5.3 INCIDENT COMMAND STRUCTURE

Figure 5.3.1 shows the Incident Command System structure that would be generally appropriate for the incident addressed by this plan.

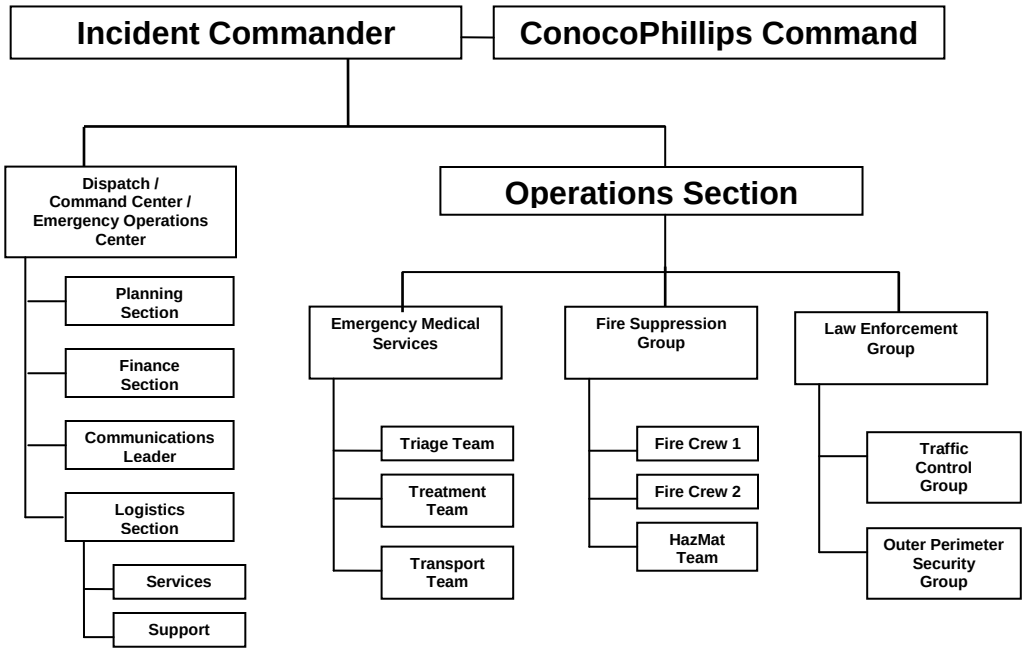

Figure 5.3.1 Industrial Accident Event ICS Structure

5.4 PRIORITIZING INTEROPERABLE COMMUNICATIONS

Because interoperable communications resources will be limited, a priority order must be established.

PRIORITY USERS

The incident commander will have the authority to apply resources as the incident requires. The following list should be considered as a possible priority order of uses for interoperable communications:

1. Incident Commander / Staff
2. Fire Suppression Group/HazMat
3. Law Enforcement Branch
4. Emergency Medical Services Group
5. Hospital Coordination

PRIORITY ASSIGNMENT OF 800 MHZ TALKGROUPS AND VHF FREQUENCIES

If all applicable agencies share communications on a common frequency, or if a radio cache is being deployed to support the incident, the following frequency assignments should be used unless otherwise directed by the Incident Commander.

Priority User	VHF Channels	800 MHz Talkgroups	Notes
Incident Commander and ConocoPhillips Command		City of Billings Talkgroups	ConocoPhillips Commander may have separate radio system
Emergency Operations Center		"EOC"	All Sections co-located at EOC
Emergency Medical Services		City of Billings Talkgroups	
Deaconess Hosp		DEAC	
St. Vincent Hosp		ST V	
American Medical Response	Tx: 150.775 Rx: 155.295 Tone: 127.3	City of Billings Talkgroups	Private ambulance company has VHF frequency and 800 system Talkgroups
Fire Suppression Group		City of Billings Talkgroups	
Fire Crews 1-4		TAC1 – 4	Group Leader will determine TAC talkgroup to fit situation
HazMat		TAC1 – 4	
Law Enforcement Group	Tx 158.300 Rx 154.675	Tx 866.5125 Rx 821.5125	NIF Crossband Interoperability Channel
Billings PD		NIF Interop	
Laurel PD	NIF		Swap radios may be used.
Montana HP	NIF		
Yellowstone Co. SO	NIF		

Table 5.1.1 Interoperability Channel Assignments

5.5 INDUSTRIAL EVENT INTEROPERABLE COMMUNICATIONS REQUIREMENTS

HIGHEST LEVEL OF OPERATIONAL COMMAND

At the highest level of operational command, the Incident Commander in this event has interoperable communications among section Groups; Dispatch/Communication Center/Emergency Operations Center, Operations Section, Emergency Medical Services, Fire Suppression, and Law Enforcement. The Region has identified the Law Enforcement Group the most critical need for interoperability because of the diversity of agencies involved.

If the Incident Commander has not already ordered deployment of a radio cache and activation of any applicable fixed gateways, one of the first actions by the Communication Leader during the event must be to ensure this resource is requested by the Operations Chief.

For the Incident Commander at the highest level of operational control, Interoperable Communications is planned in the following order:

A. The highest level of operational control are users of the 800 MHz shared system, thusly, the shared system will be used to establish interdepartmental communications.
B. A request will be made to make use of the NIF Crossband Channel to interconnect the disparate radio systems of the agencies involved in the Law Enforcement Group. The Dispatch/Communication Center will identify the available resources.
C. If no other method above is available, the Incident Commander will wait for the arrival of the radio cache. When the radio cache arrives, the Incident Commander shall distribute radios and use the channel assigned for the highest level of operational control in section 5.4.2 above.

COMMAND STAFF AND GENERAL STAFF COMMUNICATIONS

Since all City of Billings Public Safety Departments, Yellowstone County Sheriff's Office, Montana Highway Patrol, and Laurel Police Department are responding agencies and operating on the disparate communication systems, the Command Center should immediately assign the NIF Crosspatch Gateway through the Dispatch/Communication Center to the Law Enforcement Group. Dispatch will work with the Incident Commander and Emergency Operations Center to activate applicable resources.

The Command Staff will be located at the Emergency Operations Center, which is co-located with the City / County Dispatch Center, and Command Center. Communications will be attempted in the following order:

A. Collocation of all Command and General Staff at the Emergency Operation Center provide the best direct communications and reduces demand on interoperability resources.
B. The Command Staff and General Staff are users of 800 MHz shared system; thusly, the shared system will be used to establish interdepartmental communications.
C. If no other method above is available, the Command Staff will wait for the arrival of the radio cache. When the radio cache arrives, the channel assigned in section 5.4.2 above will be used for the Command Staff and General Staff.
D. If no other method of interoperability can be established, the Command Staff and General Staff will relay communications through staff members.

EMERGENCY MEDICAL SERVICES (EMS) GROUP

The EMS Group may need interoperable communications resources for directing triage, treatment and transport efforts. Interoperable communications will be attempted in the following order:

A. The EMS Group agencies are users of the 800 MHz shared system; thusly, the shared system will be used to establish interdepartmental communications.
B. The EMS Group agencies can also operate on the VHF frequency bands, if needed. If the shared system is inoperable, use of a VHF mutual aid channel should be attempted to

establish interoperable communications. The preferred mutual aid channel is listed in section 5.4.2 above.

C. If none of the methods above are available, a request should be made to make use of a Patch gateway interconnecting disparate radio systems of the EMS Group agencies. Dispatch and the Communications Leader will identify any available resources. However, priority for assignment of gateway resources should be followed as indicated in section 5.4.1.

D. Cache radios will not be distributed to the EMS Group.

FIRE SUPPRESSION GROUP

The Fire Suppression Group may need interoperable communications resources for directing fire suppression efforts. Interoperable Communications will be attempted in the following order:

A. The Fire Suppression Group members are users of 800 MHz shared system; thusly, the shared system will be used to establish interdepartmental communications.

B. If the 800 MHz shared system is inoperable, the Fire Suppression Group may operate on the VHF mutual aid bands. Use of a mutual aid channel should be attempted to establish interoperable communications. The preferred mutual aid channel is listed in section 5.4.2 above.

C. If Fire Suppression Units with disparate communication systems are operating in the same area, a request should be made to make use of the gateway patches that can interconnect the 800 MHz and VHF radios. Dispatch and the Communication Leader will identify any available resources. However, priority for assignment of gateway resources should be followed as indicated in section 5.4.1.

D. If cache radios are available for distribution, the channel assigned in section 5.4.2 above will be used for the Fire Suppression Group.

LAW ENFORCEMENT BRANCH

The Law Enforcement Branch comprised of 800 MHz and VHF users, will use interoperable communications resources for directing outer perimeter security, area evacuation, and traffic control efforts. Interoperable communications will be attempted in the following order:

A. Since the Law Enforcement Branch agencies do not have a common shared system, but operate separately on the VHF or 800 MHz frequency bands, use of the NIF Crossband Gateway will be utilized to establish interoperable communications. The NIF Crossband Gateway channel is listed in section 5.4.2 above.

B. If the NIF Crossband Gateway is inoperable, the Patch Gateway will be utilized for interoperability communications. However, priority for assignment of gateway resources should be followed as indicated in section 5.4.1

C. If cache radios are available for distribution, the channel assigned in section 5.4.2 above will be used for the Law Enforcement Branch.

5.6 COMMUNICATIONS UNIT RESPONSIBILITY

This section contains a plan for tactical use of interoperability resources during the industrial incident. This is only a plan. The Communications Leader has the responsibility to assign talkgroups, frequencies and communications equipment during an actual event, based on the circumstances, to agencies and available resources. The Incident Commander must be part of the planning process and determine the communications resources required to support the objectives and tactics of the Incident Action Plan, as it develops.

Appendix G includes sample ICS forms (ICS 201, ICS 202, etc.) for functional assignments of resources such as:

- Incident Command Staff
- Operations Section
- Planning Section
- Logistics Section
- Finance Section

SECTION 6 NIMS COMMUNICATIONS UNIT LEADER TRAINING

6.1 COMMUNICATION UNIT LEADER

The name and contact information of the Communication Unit Leader as defined by the NIMS model for the purposes of the TICP is listed below.

Agency	Contact	Email	Phone
City/County Dispatch	Anne E. Kindness	kindnesse@ci.billings.mt.us	(406)657-8444

Table 6.1: Communications Unit Leaders

6.2 INTEROPERABILITY TRAINING SCHEDULE

The governing agencies have regular meetings with the Local Emergency Planning Committee (LEPC) on the second Thursday of each month. Meetings take place at the Emergency Operations Center located at Fire Station #1, 2305 8th Avenue North, Billings, Montana. The governing agencies will include discussions concerning training criteria to support this Tactical Interoperability Communication Plan

6.3 CERTIFICATION

The individual agencies will provide a standard card or training record entry to trained operational and technical interoperation communications support personnel indicating their level of training to indicate to area jurisdictions their capabilities for out-of-jurisdictional responses.

APPENDIX A: GOVERNANCE CONTACTS

The region's points of contact for governance entities as well as any individuals appointed for regional coordination of interoperability resources are:

Region Security Initiative:

- Vern Petermann, Captain, Patrol Division, City of Billings Police Department
- Rick Musson, Chief of Police, City of Laurel Police Department
- Rico Brennan, Captain, Yellowstone County SO
- Keith Edgell, Captain-District 4 Commander, Montana Highway Patrol
- Marv Jochems, City of Billings Fire Department
- Jim Webber, Emergency Medical Services
- John Puckett, Yellowstone City/County Health Department
- Joe Marcotte, Deaconess Hospital
- Steve Shandera, St Vincent's Hospital

Alternates are:

- Tim O'Connell, Captain, City of Billings Police Department
- Mike Zuhoski, Sergeant, City of Laurel Police Department
- Bill Michaelis, Lieutenant, Yellowstone County SO
- Scott Tenney, Sergeant-Detachment Commander, Montana Highway Patrol

Yellowstone County Region Communications Committee is responsible for determining operational requirements, developing Standard Operational Procedures, and coordinating training.

Agency	Contact	Email	Phone
YCSO	Rico Brennan	rbrennan@co.yellowstone.mt.us	(406) 256-2929
YCSO	Bill Michaelis	bmichaelis@co.yellowstone.mt.us	(406) 256-2926
Billings PD	Vern Petermann	petermannv@ci.billings.mt.us	(406) 247-8616
Billings PD	Tim O'Connell	oconnellt@ci.billings.mt.us	(406) 657-8439
Laurel PD	Rick Musson	rmusson@ci.laurel.mt.us	(406) 628-8737
Laurel PD	Mike Zuhoski	mzuhoski@ci.laurel.mt.us	(406) 628-8737
Highway Patrol	Keith Edgell	kedgell@mt.gov	(406) 896-4356
Highway Patrol	Scott Tenney	stenney@mt.gov	(406) 896-4357
Billings FD	Marv Jochems	jochemsm@ci.billings.mt.us	(406) 657-8423
EMS	Jim Webber	jwebber@amr-ems.com	(406) 259-9601
Public Health	John Puckett	johnp@ycchd.org	(406) 651-6443
Deaconess	Joe Marcotte	jmarcotte@billingsclinic.org	(406) 657-4824
St Vincent's	Steve Shandera	Stephen.shandera@svh-mt.org	(406)237-3095

Table A.1: Group Communications Committee Members

APPENDIX B: SWAP RADIOS

B.1 EQUIPMENT LOCATION

This radio cache is stored in the City of Billings Police Department SWAT vehicle located at 5612 Midland Road, Billings, MT 59107. The cache travels with the SWAT vehicle to facilitate interoperable communications in potential SWAT situations.

B.2 RESPONSIBLE DEPARTMENT

Billings Police Department
Name: Sgt Mark Kirkpatrick, SWAT Commander
Email: kirkpatrickm@ci.billings.mt.us
Phone: Office – (406) 657-8475 Cell – (406) 698-1643

B.3 SERVICE AREA

This radio cache is available for deployment throughout the Yellowstone County Region.

B.4 CACHE DESCRIPTION

This VHF radio cache consists of eleven (11) Motorola MT-1000 radios with eleven fully charged spare batteries. Radio programming is listed in Table B.1.

Channel Number	Name	Description
1	SO E	County Sheriff – East Repeater
2	SO W	County Sheriff – West Repeater
3	SO L	County Sheriff – Local Repeater
4	CAR-CAR	County Sheriff – Intervehicle
5	Gold	VHF Mutual Aid – Gold Channel
6	Silver	VHF Mutual Aid – Silver Channel
7	Blue	VHF Mutual Aid – Blue Channel
8	Black	VHF Mutual Aid – Black Channel
9	LPD	Laurel Police Department
10	MHP-L	Montana Highway Patrol – Local
11	MHP Car - Car	Montana Highway Patrol – Intervehicle
12	InterOP	NIF Cross Band 800 MHz Interoperability Gateway
13		
14		

Table B.1: Billings Police Department Swap Radio Programming

APPENDIX C: SHARED CHANNELS

Table C.1 lists the shared channel assignments throughout the State of Montana. The Yellowstone County Region utilizes most of the listed VHF channels for interoperability.

Primary Use	Name	Description	Frequency
Mutual Aid	Gold	State Common Mutual Aid	153.905 MHz
Mutual Aid	Blue	National Law Enforcement Emergency	155.475
Mutual Aid	Silver	State Law Enforcement Mutual Aid	155.790
Mutual Aid	Black	State Tactical Team Coordination	153.800
Mutual Aid	Red	State Fire Mutual Aid	154.070
Mutual Aid	Maroon	State Fire Command and Control	154.280
Mutual Aid	Coral	State Fire Ground #1	154.265
Mutual Aid	Scarlet	State Fire Ground #2	154.295
Mutual Aid	Ruby	State Fire Repeater	153.830
Mutual Aid	Garnet	State Fire Repeater Control	159.345
Mutual Aid	White	State Local Hospital to Ambulance	155.280
Mutual Aid	Tan	State Regional Hospital to Ambulance	155.340
Mutual Aid	Gray	EMS Central Region Dispatch & Paging	155.325
Mutual Aid	Pink	EMS East/West Region Dispatch & Paging	155.385
Common Freqs	Brown	State DES Direction and Control	155.820
Common Freqs	Violet	National SAR	155.160
Common Freqs	Purple	State SAR	155.220
Common Freqs	Yellow	State Forestry – Dept of State Lands	151.220
Interoperability Channels for all fire, EMS, law enforcement, and medical agencies including local, state, and federal users (Narrow Band)			
General Use	Charlie		154.4525
General Use	Delta		155.7525
General Use	Echo		158.7375
General Use	Fox		159.4725

Table C.1 Shared Channels in the Region

Mutual Aid and Common Frequencies (l"Mutual Aid and Common Frequencies", Montana Department of Administration/ Public Safety Radio Communications Program pamphlet, June 2005.)

APPENDIX D.1: NIF CROSSBAND GATEWAY

D.1.1 EQUIPMENT LOCATION

The 800-MHz and VHF Cross-banded repeaters are located the Swords Park Tower Site, Highway 3, Billings, MT 59107.

D.1.2 RESPONSIBLE AGENCY

City of Billings Communications Center
Phone: (406) 657-8200

D.1.3 SERVICE AREA

This fixed gateway system is available throughout the Yellowstone County Region.

D.1.4 SYSTEM TYPE AND CAPACITY

This is a fixed hybrid gateway system that can support any number of subscribers programmed with either the VHF frequency or the 800 MHz Talkgroup. Table D.1.1 lists the frequencies utilized to create the NIF Crossband Gateway.

System	Band	Frequency	CCTCS
800 MHz to VHF Cross Banded NIF	VHF Tx	158.735	156.7
	VHF Rx	144.675	156.7
	800 MHz Tx	866.5125	156.7
	800 MHz Rx	821.5125	156.7

Table D.1.1: NIF Crossband Frequencies

D.1.5 PARTICIPATING LAW ENFORCEMENT AGENCIES

City of Billings 800 MHz users and all VHF Public Safety Agencies in the Region participate in the NIF Crossband gateway for interoperability. Table D.1.2 lists the radio designation for radio access to the NIF Crossband for each Law Enforcement Agency in the Region.

Law Enforcement Agency	Channel Designator	VHF / Talkgroup
Billings Police Department	InterOP	Talkgroup
Montana Highway Patrol	(Ch. 60) NIF	VHF
Yellowstone County Sheriff	(Ch. 10) NIF	VHF
Laurel Police Department	(Ch. 14) NIF	VHF

Table D.1.2: NIF Crossband Radio Access Channel by Agency

APPENDIX D.2: PATCH GATEWAY – 800 MHZ TO VHF

D.2.1 EQUIPMENT LOCATION

The City of Billings Communication Center dispatchers perform the procedures necessary to accomplish the 800 MHz to VHF patch. The dispatchers utilize the Orbicomm communication console located at 2305 8th Ave North, Billings, MT 59101.

D.2.2 RESPONSIBLE AGENCY

City of Billings Communications Center
Phone: (406) 657-8200

D.2.3 SERVICE AREA

This gateway system is available throughout the Yellowstone County Region. The service area is limited to the 800 MHz radio coverage area.

D.2.4 SYSTEM TYPE AND CAPACITY

This gateway that can support any number of subscribers programmed with either the patched VHF frequency or selected 800 MHz Talkgroup. The five-channel trunked system can be patched with up to five separate VHF channels; however, doing so would render the City of Billings Trunked Shared System unusable to other City of Billings Departments and Services. By Communication Center policy, up to three channels may be patched at any given time. Table D.2.1 lists the pre-programmed patching matrix. The Communication Center can patch other Talkgroups and VHF channels on an ad-hoc basis. Since use of the patch gateway reduces the number of channel resources, the Patch Gateway will only be utilized as a NIF Crossband backup or under conditions whereby the NIF Crossband is insufficient for the tactical situation.

System	Patch Number	800 MHz Talkgroup Name	VHF Mutual Aid Color
Pre-programmed Patching – 800 MHz Talkgroup to VHF frequency.	1	Red	Mutual Aid - RED
	2	Gold	Mutual Aid - GOLD
	3	Silver	Mutual Aid - SILVER

Table D.2.1: Pre-programmed Patch Matrix

D.2.5 PARTICIPATING AGENCIES

City of Billings 800 MHz users and all VHF Public Safety Agencies within radio coverage of the Region can participate in a patch gateway, as needed.

APPENDIX E: SHARED SYSTEM - CITY OF BILLINGS TRUNKED RADIO SYSTEM

E.1.1 SYSTEM DESIGNATION

City of Billings 800 MHz Simulcast Conventional Trunked Radio System

E.1.2 SYSTEM TYPE

The City of Billings operates an E.F. Johnson- proprietary, 800 MHz 5-Channel trunked simulcast system shared by all City of Billings Public Safety and Services Departments, except Street Department. Three towers, linked by Telco T-1 and Microwave, are designated as Fox, Swords Park, and Landfill.. The central trunking control is maintained at the City of Billings Communications Center.

E.1.3 RESPONSIBLE AGENCY

City of Billings Communication Center
Phone: (406) 657-8200

E.1.4 SERVICE AREA

This shared system provides radio service throughout the City of Billings.

E.1.5 PARTICIPATING AGENCIES

Table E.1.1 lists all participating agencies in the exercise for the City of Billings 800 MHz trunked system.

800 MHz Users	
• Police Department • Fire Department • Public Utilities • St. Vincent Hospital • Deaconess Hospital	• American Medical Response (private) • Solid Waste • Airport Security, Fire & Rescue

Table E.1.1: 800 MHz Users

E.1.6 SHARED FREQUENCIES OR TALK GROUPS

Tables E.1.2 through E.1.5 list the talk groups for each participating City of Billings Agency on the shared system.

Billings Police Department		Radio User				
Talkgroup (Alpha Tag)	Description (Group Description)	Chiefs	Off.	Port	Mobile	SWAT
PD1	PD – Primary	X				
PD2	PD – Secondary	X				
PDCOM	PD – Command	X				
PDTAC	PD – Tactical	X				
SILVR	Mutual Aid – Silver	X				
GOLD	Mutual Aid – Gold	X				
SO-E	YCSO – East Rep.	X				
SO-W	YCSO – West Rep.	X				
FAP	Fire, Airport Police	X				
CTYCM	City - Command	X				
DET1	Detective Primary	X				
DET2	Detective Second	X				
CCSIU	?	X				
SCU	?	X				
PDSCR	PD - Scrambled	X				
SWAT	SWAT	X				
AIR1	Aircraft Primary	X				
ACO	Animal Control	X				
PADMN	PD – Admin	X				
PDCHF	PD – Chief	X				
CTYAD	City - Admin	X				
PSPLX	PD - Simplex	X				
CSPLX	City - Simplex	X				

Table E.1.2: Billings Police Department Subscriber Talkgroup Plan

City of Billings Fire Department		Radio User			
Talkgroup (Alpha Tag)	Description (Group Description)	Admin	Command & Bureau	Basic	HazMat
FIRE1	Fire Dispatch	X	X	X	X
TAC2	Tactical – 1	X	X	X	X
TAC3	Tactical – 2	X	X	X	X
TAC4	Tactical – 3	X	X	X	X
TAC5	Tactical – 4	X	X	X	X
DEAC	Deacon Hosp	X	X	X	X
STV	St. Vincent Hosp	X	X	X	X
STAGE	Staging	X	X	X	X
CTYCM	City Command	X	X	X	X
FPAGE	Fire Paging	X	X	X	X
FAP	Fire & Airport Police	X	X	X	X
T10 A	Fire Team A	X	X	X	X
T11 B	Fire Team B	X	X	X	X
T12 C	Fire Team C	X	X	X	X
T13 D	Fire Team D	X	X	X	X
T14 S	Fire Team S	X	X	X	X
OPS 15	Operations	X	X	X	X
FCMND	Fire Command	X	X	X	X
EOC	Emergency Operations Center	X	X	X	X
PATCH	NIF Crossband	X	X	X	X
BREAU	Bureau Land Mgt	X	X		
PD1	PD – Primary	X	X		
SMP 9	Simplex	X	X	X	X
CSPLX	Simplex	X	X	X	X

Table E.1.3: Billings Fire Department Subscriber Talkgroup Plan

EMS Group		Radio User		
Talkgroup (Alpha Tag)	Description (Group Description)	Deaconess	St. Vincent	AMR
TAC 2		X	X	X
TAC 3		X	X	X
TAC 4		X	X	X
TAC 5		X	X	X
DEAC	Deaconess Hospital	X	X	X
STV	St Vincent Hospital	X	X	X

Table E.1.4 Billings 800-System Medical Group Talkgroup Plan

City of Billings Dispatch Center		Radio User	
Talkgroup (Alpha Tag)	**Group Description**	**Primary User**	**System**
PD1	Police Dispatch 1	Billings PD	800
PD2	Police Dispatch 2	Billings PD	800
Fire Simplex	Fire Simplex	Simulcast Backup	800
FPAGE	Fire Page	Billings FD	800
FIRE1	Fire Dispatch	Billings FD	800
TAC2	Tactical 2 (Fire)	Billings FD	800
TAC3	Tactical 3 (Fire)	Billings FD	800
TAC4	Tactical 4 (Fire)	Billings FD	800
TAC5	Tactical 5 (Fire)	Billings FD	800
FAP	Fire, Airport & Police	Airport	800
OPS15	Operations 15	Billings FD	
EOC	Emergency Operations Center	Billings Comm Center	800
DES West	Department of Emergency Services - West	Rural Fire/EMS Responders	VHF
DES Cust	Department of Emergency Services - West	Montana DES	VHF
RED	Mutual Aid RED (Patch)	Billings FD	800
RED	Mutual Aid RED (Patch)	VHF users	VHF
GOLD	Mutual Aid RED (Patch)	Billings FD	800
GOLD	Mutual Aid RED (Patch)	VHF users	VHF
APD1	Airport FD1	Airport	800
SO _E	YCSO - East Repeater	YCSO	VHF
SO_W	YCSO - West Repeater	YCSO	VHF
SO-Lock	Lockwood SO		VHF
CTYCM	City Common	Billings Users	800
Street Dept	Street Dept	Billings City	VHF
PUD	Public Utilities	Billings City	800
Old Fire 1 VHF	Old Fire 1 VHF	Billings FD	VHF
Old Fire 2 VHF	Old Fire 2 VHF	Billings FD	VHF
ACO	City Animal Control	Billings City	800
PKNG	Parking Enforcement	Billings PD	800
TDSP1	Met Bus		
STCA	Special Transport	Billings City	800
PRPL1	Parks/Recreation	Billings City	800
PD Simplex	PD Simplex	Simulcast Back-up	800
DEAC	Deaconess Hospital	Billings City	800
ST V	St. Vincent Hospital	Billings City	800
InterOP	NIF Crossband	Billings Comm Center	800

E.1.5: Billings 800-System City of Billings Dispatch Center Talkgroup Plan